FIG. 1A
PRIOR ART

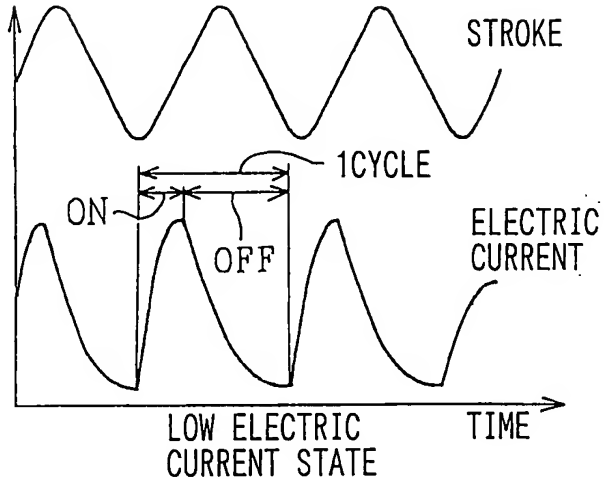

FIG. 1B
PRIOR ART

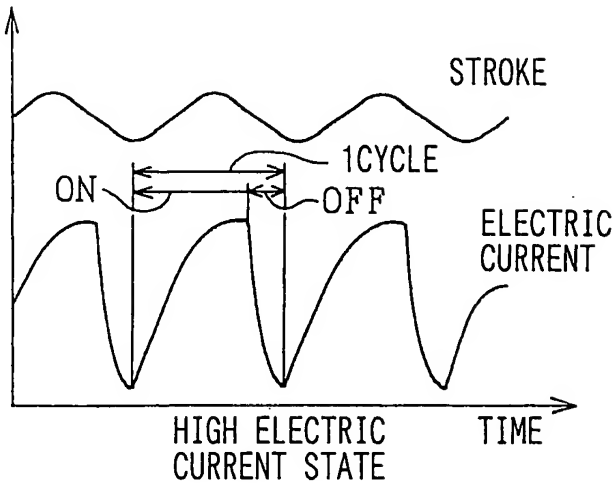

FIG. 1C

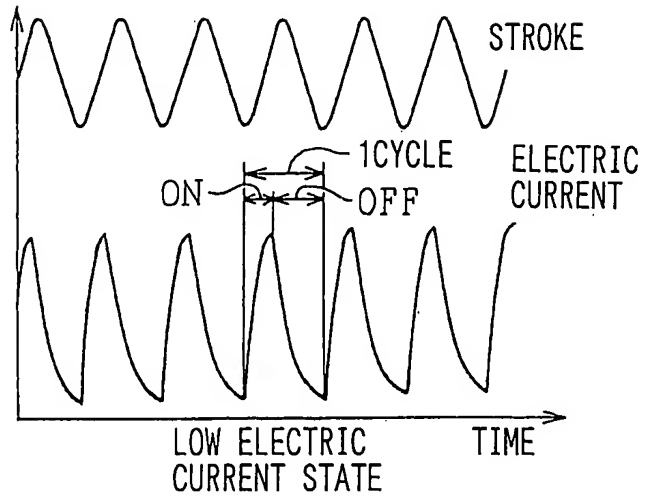

FIG. 1D

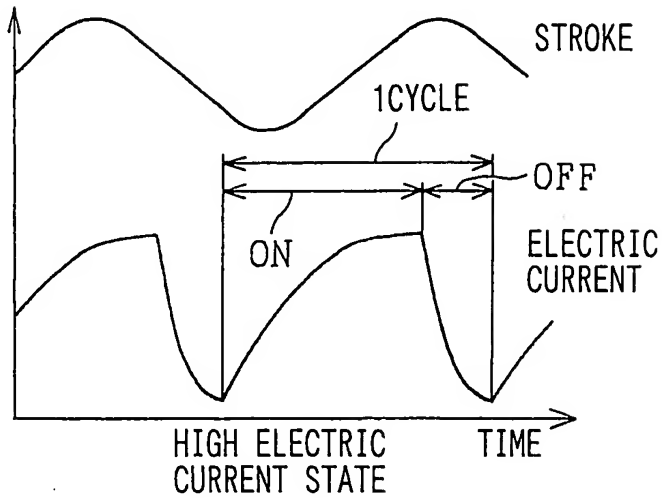

FIG. 2

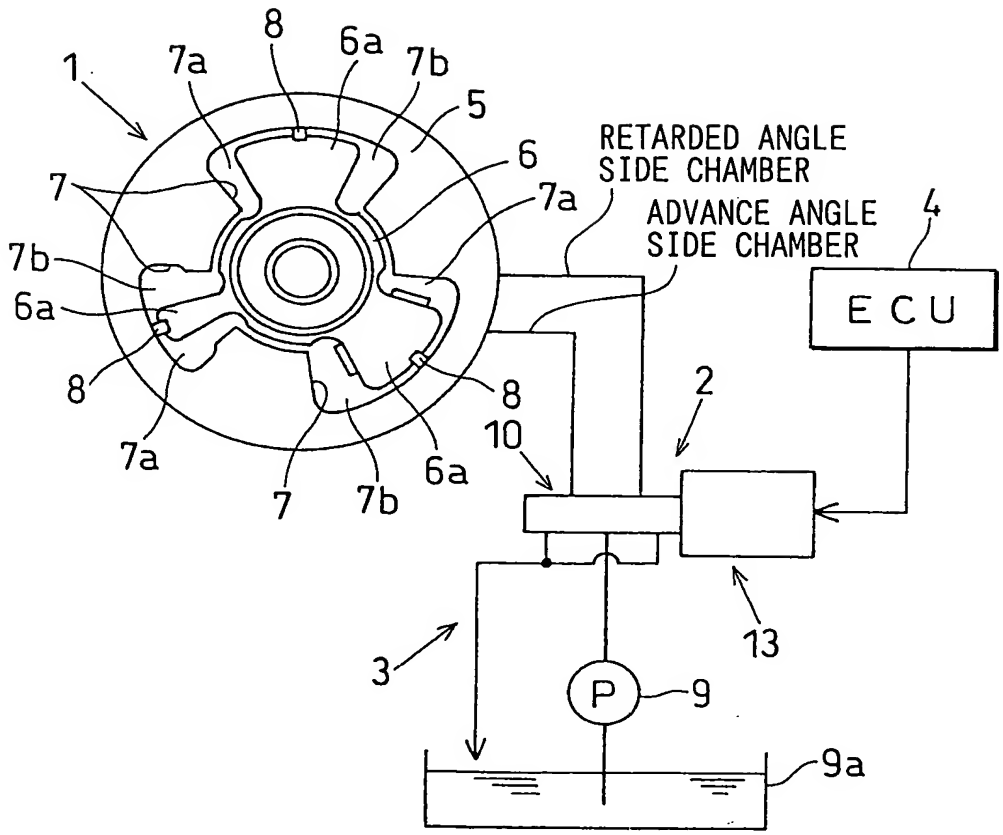
1
7a
8
6a
7b
5
6
7a
7
7b
6a
8
7a
7
7b
6a
8
RETARDED ANGLE SIDE CHAMBER
ADVANCE ANGLE SIDE CHAMBER
4
E C U
2
10
13
3
P
9
9a

FIG. 3

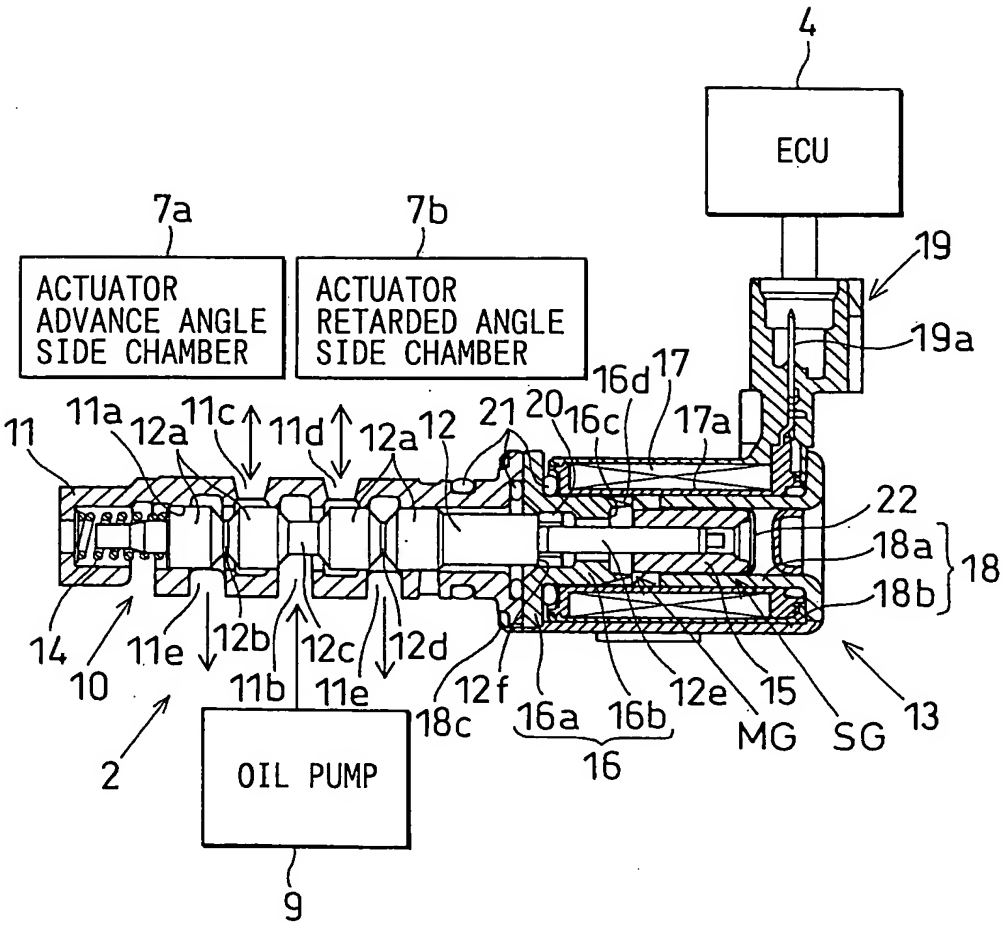
4
ECU
7a
7b
ACTUATOR ADVANCE ANGLE SIDE CHAMBER
ACTUATOR RETARDED ANGLE SIDE CHAMBER
19
19a
11
11a
12a
11c
11d
12a
12
21
20
16c
16d
17
17a
22
18a
18b
18
14
10
11e
12b
11b
12c
11e
12d
18c
12f
16a
16b
16
12e
15
MG
SG
13
2
OIL PUMP
9

FIG. 4

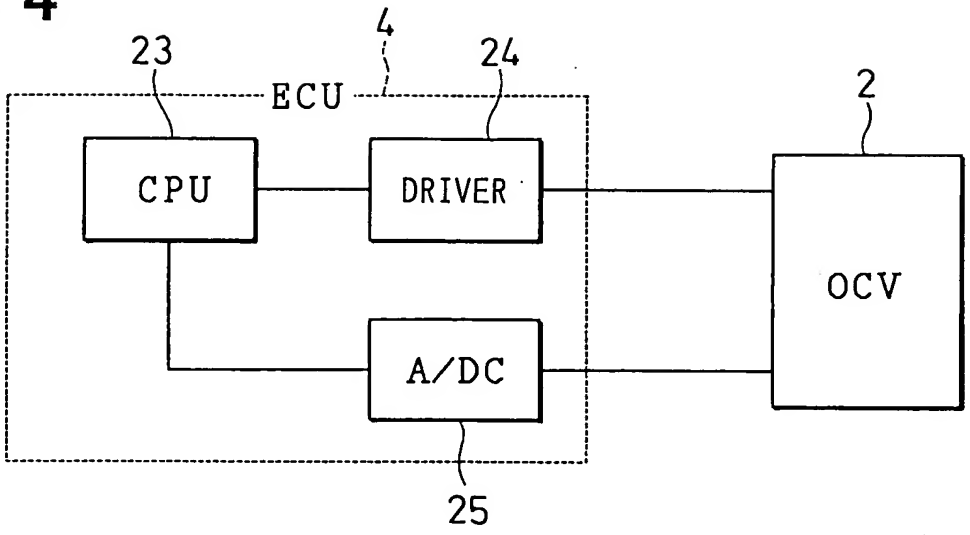

FIG. 5A
PRIOR ART

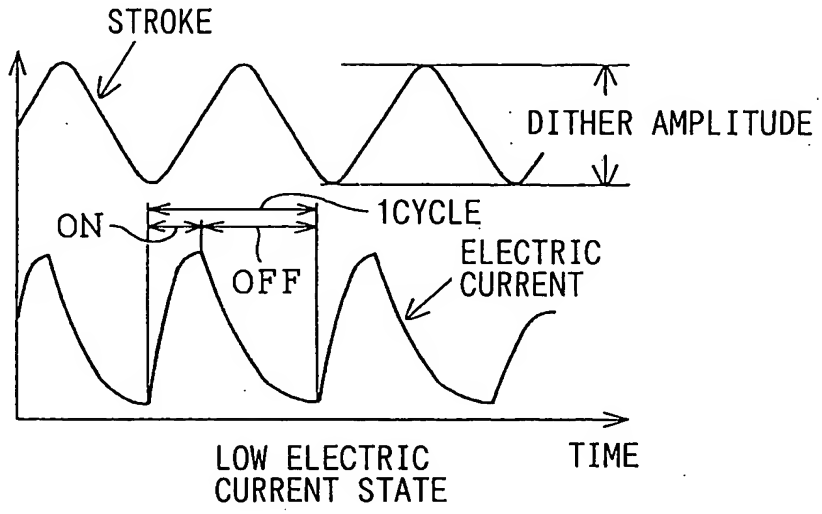
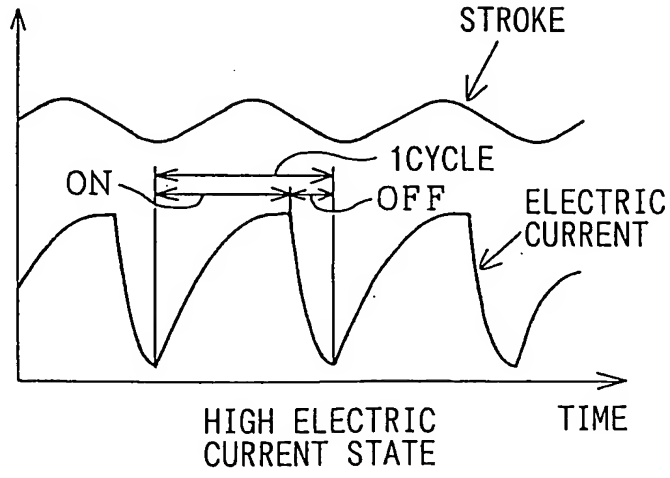
FIG. 5B
PRIOR ART